

Chemicals in common consumer products may play a role in pre-term births

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(PhysOrg.com) -- A new study of expectant mothers suggests that a group of common environmental contaminants called phthalates, which are present in many industrial and consumer products including everyday personal care items, may contribute to the country's alarming rise in premature births.

Researchers at the University of Michigan School of Public Health found that women who deliver prematurely have, on average, up to three times the [phthalate](#) level in their urine compared to women who carry to term.

Professors John Meeker, Rita Loch-Caruso and Howard Hu of the SPH Department of Environmental Health Sciences and collaborators from the National Institute of Public Health in Mexico and the U.S. Centers for Disease Control and Prevention analyzed data from a larger study directed by Hu, which follows a cohort of Mexican women recruited during pre-natal visits at one of four clinics of the Mexican Institute of Social Security in Mexico City.

Meeker and colleagues looked at data from 60 women: 30 who carried to term and 30 who delivered prematurely (defined as less than 37 weeks gestation). They analyzed urine samples collected during the third trimester and compared them to the control group who carried to term. They found significantly higher phthalate metabolite levels in the women who delivered prematurely.

[Premature birth](#) is a significant risk factor for many health problems in childhood that can persist into adulthood, Meeker says. In the United States, premature births have increased by more than 30 percent since 1981 and by 18 percent since 1990. In 2004, premature births accounted for 12.8 percent of live births nationwide.

Premature births, he says, account for one-third of

infant deaths in the United States, making it the leading cause of neonatal mortality. Being born too early can also lead to chronic health problems such as blindness, deafness, cerebral palsy, low IQ and more.

Phthalates are commonly used compounds in plastics, personal care products, home furnishings (vinyl flooring, carpeting, paints, etc.) and many other consumer and industrial products. The toxicity varies by specific phthalates or their breakdown products, but past studies show that several phthalates cause reproductive and developmental toxicity in animals.

A couple of human studies have reported associations between phthalates and gestational age, but this is the first known study to look at the relationship between phthalates and premature births, Meeker says.

"We looked at these commonly used compounds found in consumer products based on the growing amount of animal toxicity data and since national human data show that a large proportion of the population are unknowingly exposed," Meeker said. "One of the problems for consumers is that you don't know exactly which products contain phthalates because the products do not have to be labeled accordingly."

Meeker says the U-M study is a stepping stone to larger and more detailed studies examining the role of phthalates and premature births. The researchers hope to examine a larger population of pregnant women to corroborate these initial study findings, and conduct experimental lab studies to further explore the biological mechanisms of how phthalates work in the body.

[More information:](#) The study, "Urinary Phthalate Metabolites in Relation to Preterm Birth in Mexico City," is available online at:

www.ehponline.org/docs/2009/0800522/abstract.ht

[ml](#). It will appear in a later printed issue of *Environmental Health Perspectives*.

Provided by University of Michigan ([news](#) : [web](#))

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